

All of the above mentioned species are represented by herbarium specimens, which are at present with the Herbarium of Williams College in Williamstown.

CAMBRIDGE, MASSACHUSETTS.

REMARKABLE PERSISTENCE OF THE BUTTON-BUSH.

WALTER DEANE.

It seems a strange and anomalous condition of things, a perversion of the laws that govern the distribution of plants, to see our common Button-bush (*Cephalanthus occidentalis*, L.) growing in a dry hen-yard behind a barn. Yet such is the case and the shrubs flourish from year to year in this quaint spot, though their natural habitat is swamps and the wet borders of ponds and streams. The story is an interesting one and illustrates well the dogged persistence that some plants show in the hard struggle for life.

The scene is in Shelburne, New Hampshire, on the farm of Mr. A. E. Philbrook. On one part of this farm, as early as 1860, there stood a small pond on whose borders grew in greater or less abundance the Button-bush. The water was shallow and muddy, and in summer the pond was reduced to a very swampy piece of land. Between 1860 and 1865, the owner of the land, in order to make a suitable site for a barn, decided to fill up the pond. To lighten this task a small neighboring stream was turned so as to flow along the foot of a sandy hill close by the pond. The water undermining the bank brought down a good supply of sand, and the pond was finally filled, the level of the ground being about three feet above the former surface of the water. The Button-bush was buried out of sight, for whatever may have been above ground was cut off or trampled down, and on this new land the barn was built and an area left in the rear was used as a wood-yard. Soon sprouts of the buried plants began to appear, but they were continually cut off or trodden under foot until finally the place was turned into a hen-yard and fenced in. Not long after this, the sprouts again appeared and ere long the plants were of normal size, in good condition, and flowering and fruiting regularly, though the roots were buried at least three feet deeper

than when the plants grew beside the pond. The place has been fenced in ever since and used either for hens or pigs or both, and yet through all this time to the present day the plants have continued to thrive.

I first saw this Button-bush on the Philbrook Farm in the summer of 1882. It was growing in a thick clump, some four feet high, the bushes were in full flower and the hens sought shelter from the hot sun under the shady branches. The next time I saw the plants was in October of the present year, fifteen years since my last visit. On repairing to the spot I found the conditions in no wise changed. The little yard was still there, fenced in as formerly. Fifteen little pigs and some hens were roaming about the enclosure. There on one side within a space thirty-three by twenty-eight feet in extent grew the Button-bush. I counted as many as seventy stems rising above the ground which was dry and hard as formerly, and packed closely about the plants by the many feet of the strange companions of these water-loving shrubs. They were from three to seven and one half feet in height, and were setting a good crop of fruit. Mr. Philbrook who has kindly given me the early history of this plant says that the roots are at least six feet below the surface of the ground, but that at that depth the soil is always wet in this particular locality. In this respect only does the plant in any degree follow the normal habit of the species. The shoots of the Button-bush are not so numerous as they were a few years ago, but this is due to the fact that they receive pretty hard treatment from the pigs that root about the stems and rub continually against them. The hens also pick at the young shoots within reach. Still for thirty-seven years under these unnatural conditions have the plants flourished and, if unmolested, there seems to be no reason for putting any limit to their vitality.

CAMBRIDGE, MASSACHUSETTS.

A CRISTATE FORM OF NEPHRODIUM MARGINALE.

F. G. FLOYD.

VERY few of our New England ferns have been found crested. Perhaps this is partially accounted for by the fact that this phase of abnormal growth is a branch of fern study that has not, until quite recently, interested American collectors. That these cristate varie-